

Remarks

Claims 1 to 16 are pending. Claims 1 and 8 are currently amended.

Objection

The Patent Office has objected to the use of the tradename "NEOCRYL CX-100" without a generic descriptor. Applicants have amended the specification to add the generic descriptor "polyfunctional aziridine crosslinker" following the tradename. Support is found in an attached product data sheet from the manufacturer NeoResins. Accordingly, this objection should be withdrawn.

112 Rejections

Claims 1-16 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More particularly, the Patent Office notes that the independent claims (as well as the Abstract) recite ranges of proportions that are set forth in weight percent, which is clearly proper, and also just "parts," which is believed to be unduly vague, indefinite, and confusing.

Applicants have amended the independent claims 1 and 8 so to clarify that the "parts" of urethane oligomer per 100 "parts" (meth)acrylate copolymer is parts by weight. Support for the amendment may be determined from the specification at page 14, line 19 through page 15, line 4. The noted text describes that the n-butyl acrylate and acrylic acid monomers are present at a level of 30 wt.% in acetone. Then, varying amounts of a 30% solution of a urethane acrylate in acetone were added to the resulting copolymer solution. Then, this solution was adjusted to 25 wt.% with acetone before coating onto a substrate. One skilled in the art would recognize that in order to adjust the solution to 25 wt.% solids, one would need to initially know the weight of all of the solids added to the solution. Thus, the weight of the acrylate and acrylic acid monomers and the urethane acrylate in acetone must have been known in order to form a solution containing such solids at a level of 25 wt.%. Accordingly, Applicants respectfully request that the above rejection of claims 1-16 be withdrawn.

§ 103 Rejections

Claims 1-16 were rejected under 35 USC § 103(a) as being unpatentable over Ishiwata et al. (US 5,281,473) for the reasons set forth in paragraph No. 7 of Paper No. 3. The Patent Office submits in part that: The reference discloses (note particularly the Abstract, column 6, lines 14 - 32; column 7, line 42 - column 8 line 7; column 8, lines 42 - 44) in certain embodiments substantially an anticipation of at least applicants' broad composition and coated sheet claims except for the presence of a thermally stable free radical initiator operating at the claimed specified temperature range; and that EP 0981156A2 discloses that the free radical polymerization initiator IRGACURE 184 as particularly suitable in its radiation curable pressure sensitive adhesive composition.

Applicants' invention as claimed in claim 1 is a radiation detackifiable, thermally stable adhesive composition comprising a (meth)acrylate copolymer and a multi-functional urethane acrylate oligomer combined with said (meth)acrylate copolymer to provide from 25 parts to 40 parts by weight of said oligomer per 100 parts by weight of said copolymer, and a thermally stable free radical initiator.

The amounts of multifunctional urethane acrylate and copolymerizable carboxylate monomer are selected so as to provide a combination of good initial adhesion and clarity (low haze), along with sufficiently low adhesion after detackification to permit clean removal without adhesive transfer to the diced wafer (page 8, lines 3-15, page 11, lines 7-16, page 11, line 25 – page 12, line 12). Examples 3-6, 9-12, and 15-18 show that the combination of from 2.5 to 15 weight percent copolymerizable carboxylate monomer and from 25 to 40 parts by weight urethane acrylate per 100 parts by weight copolymer provide the combination of low initial haze and high initial adhesion.

Ishiwata et al. disclose radiation curable tapes having an adhesive that contains an acrylic adhesive and a urethane acrylate compound. The urethane acrylate compound may be present at a level of from 0.5 to 100 parts by weight per 100 parts by weight of the acrylic adhesive. Ishiwata et al. mention that the acrylic adhesives may be homopolymers of an ester of acrylic or methacrylic acid and copolymers of acrylic acid, or methacrylic acid, or its ester (column 6, lines 14-17). Ishiwata et al. also discloses 17 examples of adhesives containing a combination of acrylic adhesive and a polyisocyanate compound. However, Ishiwata et al. nowhere in the Detailed Description or the Examples describe ratios or weights of monomers used to make the

acrylic adhesive. Thus, Ishiwata et al. do not teach or suggest Applicants' claimed range of from 2.5 to 15 weight percent copolymerizable carboxylate monomer. Additionally, Ishiwata et al. fail to recognize that the combination of from 2.5 to 15 weight percent copolymerizable carboxylate monomer and from 25 to 40 parts by weight urethane acrylate per 100 parts by weight copolymer provides an adhesive having low initial haze and high initial adhesion. For at least these reasons, Applicants submit that Ishiwata et al. do not render the claimed invention obvious. Accordingly, Applicants respectfully request that the above rejection of claims 1-16 be withdrawn.

Obviousness-Type Double Patenting

Claims 1-16 stand rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,472,065 B1. It was previously asserted by the Examiner that although the conflicting claims are not identical, they are not patentably distinct from each other because the presence of a thermally stable free radical initiator is believed to be well within the ordinary skill of the art, in the absence of unexpected results.

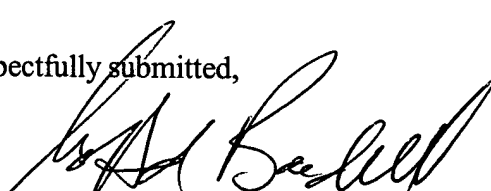
Applicants have submitted a Terminal Disclaimer complying with 37 CFR § 1.321 (b) and (c) with this response. Accordingly, Applicants respectfully request that the above rejection of claims 1-16 be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

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Date

Respectfully submitted,

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